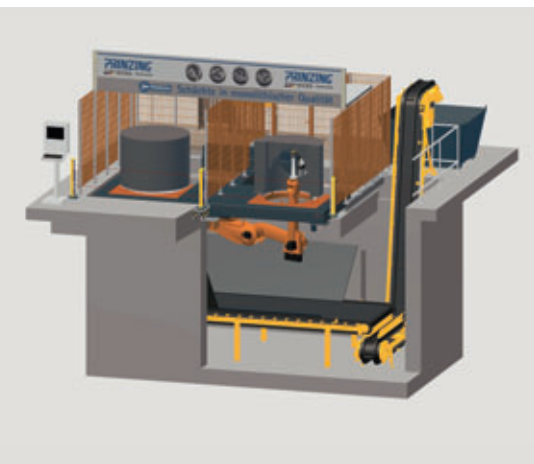


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## Milling process for the manufacture of concrete manhole bottoms now even more efficient

The success story of the Primuss milling robot from Prinzing-Pfeiffer GmbH is now in its sixth year. This process for the manufacture of flexible manhole bottoms made of concrete was introduced to the market in 2009. Manhole bottoms are manufactured in all variations without recess parts made of EPS or similar materials. The channel and the connection holes are milled in a partly cured concrete blank by an industrial robot that can automatically change the various milling tools.



*Double milling station with one milling robot (located below ground)*



*Double milling station with two milling robots (one robot located above ground, one below ground)*

The respective seals for the various pipe connections are subsequently installed and the manhole bottom is finished. Further auxiliary options for the drilling of holes for stirrups or the milling of stepping niches in the channel are also possible.

Primuss customers value the speed and accuracy of the manufacturing method with which the monolithic concrete manhole bottoms can be manufactured ergonomically, economically and in an environmentally friendly manner.

### Further development

The proven principle by which the concrete is milled according to the requirements for the structural element remains the same. One essential factor in the manufacturing process does change, though – time. The machining time is virtually halved through the use of a second industrial robot. The course of the channel is milled by the robot mounted underneath the blank, while the cut-outs for the pipe connections are milled by the robot mounted centrally above the blank. Thanks to this arrangement larger nominal sizes up to 1500 mm are now also possible.

Since there is just one machining station, the spatial requirement for the entire plant is considerably smaller. The investment costs remain virtually the same in comparison with a double milling station with only one milling robot, while the manufacturing costs are reduced since the machining speed is almost doubled. It will depend on the structural conditions whether the location is in a pit as before or whether this complete unit is located above ground.

The environmentally friendly integrated solution with the Primuss manhole bottom manufacturing is thus even more efficient now. ■



*New: single milling station with two milling robots = double performance*

### FURTHER INFORMATION

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